

# PATENT COOPERATION TREATY

## PCT

### INTERNATIONAL SEARCH REPORT

(PCT Article 18 and Rules 43 and 44)

CODE	DATE	NTD
ANKOM	27 JUN 2005	GIPS
DATA ENTERED		
FINAL CHECK		

Applicant's or agent's file reference <b>101367-1</b>	<b>FOR FURTHER ACTION</b> see Form PCT/ISA/220 as well as, where applicable, item 5 below.	
International application No. <b>PCT/GB2004/005400</b>	International filing date (day/month/year) <b>24/12/2004</b>	(Earliest) Priority Date (day/month/year) <b>05/01/2004</b>
Applicant <b>ASTRAZENECA AB</b>		

This International Search Report has been prepared by this International Searching Authority and is transmitted to the applicant according to Article 18. A copy is being transmitted to the International Bureau.

This International Search Report consists of a total of 6 sheets.

☒ It is also accompanied by a copy of each prior art document cited in this report.

#### 1. Basis of the report

a. With regard to the **language**, the international search was carried out on the basis of the international application in the language in which it was filed, unless otherwise indicated under this item.

☐ The international search was carried out on the basis of a translation of the international application furnished to this Authority (Rule 23.1(b)).

b. ☐ With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application, see Box No. I.

2. ☐ **Certain claims were found unsearchable** (See Box II).

3. ☒ **Unity of Invention is lacking** (see Box III).

#### 4. With regard to the **title**,

☐ the text is approved as submitted by the applicant.

☒ the text has been established by this Authority to read as follows:

**THIOPHENE DERIVATIVES AS CHK 1 INHIBITORS**

#### 5. With regard to the **abstract**,

☒ the text is approved as submitted by the applicant.

☐ the text has been established, according to Rule 38.2(b), by this Authority as it appears in Box No. IV. The applicant may, within one month from the date of mailing of this international search report, submit comments to this Authority.

#### 6. With regard to the **drawings**,

a. the figure of the **drawings** to be published with the abstract is Figure No. \_\_\_\_\_

☐ as suggested by the applicant.

☐ as selected by this Authority, because the applicant failed to suggest a figure.

☐ as selected by this Authority, because this figure better characterizes the invention.

b. ☐ **none of the figures is to be published with the abstract.**

# INTERNATIONAL SEARCH REPORT

International Application No  
PCT/GB2004/005400

## A. CLASSIFICATION OF SUBJECT MATTER

IPC 7 C07D409/12 C07D453/02 C07D333/38 C07D409/14 C07D413/12  
C07D413/14 C07D417/14 A61K31/41 A61K31/40 A61K31/435  
A61K31/495 A61K31/55 A61P35/00

According to International Patent Classification (IPC) or to both national classification and IPC

## B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

IPC 7 C07D A61K

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

EPO-Internal, WPI Data, CHEM ABS Data

## C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	WO 03/028731 A (SMITHKLINE BEECHAM CORPORATION; PARRISH, CYNTHIA, A; CALLAHAN, JAMES,) 10 April 2003 (2003-04-10) cited in the application Examples	1-36
X	WO 03/029241 A (SMITHKLINE BEECHAM CORPORATION; PARRISH, CYNTHIA, A; CALLAHAN, JAMES,) 10 April 2003 (2003-04-10) cited in the application Examples	1-36
A	US 6 187 799 B1 (WOOD JILL E ET AL) 13 February 2001 (2001-02-13) the whole document	1-36

☒ Further documents are listed in the continuation of box C.

☒ Patent family members are listed in annex.

### \* Special categories of cited documents:

- \*A\* document defining the general state of the art which is not considered to be of particular relevance
- \*E\* earlier document but published on or after the international filing date
- \*L\* document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)
- \*O\* document referring to an oral disclosure, use, exhibition or other means
- \*P\* document published prior to the international filing date but later than the priority date claimed

- \*T\* later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention
- \*X\* document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
- \*Y\* document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art.
- \*Z\* document member of the same patent family

Date of the actual completion of the international search

10 June 2005

Date of mailing of the international search report

24.06.2005

Name and mailing address of the ISA

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## INTERNATIONAL SEARCH REPORT

International Application No  
PCT/GB2004/005400

## C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	ROBBA M ET AL: "Synthèse d'intermédiaires de la thiazolo '4,5-d! pyridazine. II. Amides et hydrazides d'acides thiazole-carboxyliques" BULLETIN DE LA SOCIETE CHIMIQUE DE FRANCE, SOCIETE FRANCAISE DE CHIMIE. PARIS, FR, no. 6, 1969, pages 2152-2157, XP002234183 ISSN: 0037-8968 right col, 2nd, 3rd cpd. page 2155	1-3,24
X	----- CHILDRESS ET AL.: "Thiazolopyrimidines" J. AM. CHEM. SOC., vol. 73, no. 26, 1951, pages 3862-3864, XP002330773 right col. 2-Methylthiazole-4,5-dicarboxamide and 2-Phenylthiazole-4,5-dicarboxamide page 3863	1-3,24
X	----- CHAUVIN ET AL.: "Synthesis of heterocyclic compounds from cyano- and dicyanoselephenes" COMPTES RENDUS DES SEANCES DE DES SCIENCES, SERIE C: SCIENCES CHIMIQUES, vol. 274, no. 14, 1972, pages 1347-1349, XP009048300 First reaction equation, second compound page 1348 -----	1-3,24

## INTERNATIONAL SEARCH REPORT

International application No.  
PCT/GB2004/005400

### Box II Observations where certain claims were found unsearchable (Continuation of item 2 of first sheet)

This International Search Report has not been established in respect of certain claims under Article 17(2)(a) for the following reasons:

1. ☐ Claims Nos.:  
because they relate to subject matter not required to be searched by this Authority, namely:
2. ☐ Claims Nos.:  
because they relate to parts of the International Application that do not comply with the prescribed requirements to such an extent that no meaningful International Search can be carried out, specifically:
3. ☐ Claims Nos.:  
because they are dependent claims and are not drafted in accordance with the second and third sentences of Rule 6.4(a).

### Box III Observations where unity of invention is lacking (Continuation of Item 3 of first sheet)

This International Searching Authority found multiple inventions in this international application, as follows:

see additional sheet

1. ☒ As all required additional search fees were timely paid by the applicant, this International Search Report covers all searchable claims.
2. ☐ As all searchable claims could be searched without effort justifying an additional fee, this Authority did not invite payment of any additional fee.
3. ☐ As only some of the required additional search fees were timely paid by the applicant, this International Search Report covers only those claims for which fees were paid, specifically claims Nos.:
4. ☐ No required additional search fees were timely paid by the applicant. Consequently, this International Search Report is restricted to the invention first mentioned in the claims; it is covered by claims Nos.:

#### Remark on Protest

- ☐ The additional search fees were accompanied by the applicant's protest.
- ☒ No protest accompanied the payment of additional search fees.

FURTHER INFORMATION CONTINUED FROM PCT/ISA/ 210

This International Searching Authority found multiple (groups of) inventions in this international application, as follows:

1. claims: 1-7(part);8;9-10(part);11;12-31(part);32-36

Compounds (I) in which Y is CH, methods, compositions, and uses thereof, processes for their production, intermediates (XV), (XVI), (XI) and use of these intermediates  
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2. claims: 1-7(part);9-10(part);12-31(part)

Compounds (I) in which Y is nitrogen, methods, compositions and uses thereof  
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# INTERNATIONAL SEARCH REPORT

Information on patent family members

International Application No

PCT/GB2004/005400

Patent document cited in search report		Publication date	Patent family member(s)		Publication date
WO 03028731	A	10-04-2003	WO	03028731 A1	10-04-2003
WO 03029241	A	10-04-2003	WO	03029241 A1	10-04-2003
US 6187799	B1	13-02-2001	US	2001006975 A1	05-07-2001
			WO	9852559 A1	26-11-1998